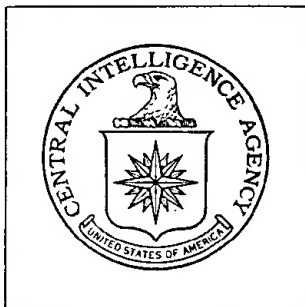


**Top Secret**



DIRECTORATE OF  
INTELLIGENCE

**Industrial Facilities  
(Non-Military)**

*Basic Imagery Interpretation Report*

**Selected Cement Plants**

**China**

25X1

**Top Secret**

RCS 13/0145/69

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DATE JUNE 1969  
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25X1CENTRAL INTELLIGENCE AGENCY  
Directorate of Intelligence  
Imagery Analysis Service

RCS - 13/0145/69

INSTALLATION OR ACTIVITY NAME				COUNTRY:	
Selected Cement Plants				CH	
UTM COORDINATES	GEOGRAPHIC COORDINATES		BE NUMBER	COMIREX NO.	WAC-PIC NO. 25X1
See Table	See Table		See Table	See Table	See Table
MAP REFERENCE					
See Individual Plant References					
LATEST IMAGERY USED			NEGATION DATE (If required)		
See Individual Plant References			Not Required		

Item No.	Installation Name	Coordinates UTM	Geographic	WAC-PIC No. 25X1
1	Chao-hsien Cement Plant	50RNK799988	31-37-20N 117-50-10E	0493-92
2	Chi-lin Cement Plant	52TCD030622	43-53-05N 126-32-30E	0290-31-L
3	Chiang-shan Cement Plant	50RPG543767	28-41-00N 118-34-00E	0493-4-D
4	Chien-ko Cement Plant	No UTM Available	32-05-00N 105-06-00E	0384-58
5	Chin-hsi Cement Plant	51TUF188130	40-45-42N 120-51-01E	0289-19-J
6	Chiu-chiang Cement Plant	50RMH120753	29-36-25N 116-05-30E	0493-7-E
7	Chou-shui-tzu Cement Plant	51SUD733141	38-58-12N 121-32-18E	0381-14-B
8	Chung-ching Cement Plant	48RXH518693	29-32-40N 106-34-03E	0495-10-MI
9	Feng-feng Cement Plant	50SKR502383	36-28-00N 114-12-00E*	0382-60-A
10	Fu-shun Cement Plant	51TWG719326	41-51-01N 123-51-49E	0290-36-FI
11	Ha-erh-pin Cement Plant	52TCF220782	45-49-45N 126-42-59E	0283-42-H
12	Huang-shih Cement Plant	50RLJ151448	30-13-22N 115-04-20E	0493-29-C
13	Ku-shui Cement Plant	49RFA178691	27-44-00N 112-12-00E	0497-33-A
14	Kuang-chou Cement Plant	49QGR292630	23-09-10N 113-14-15E	0614-2-A3
15	Kuei-yang Cement Plant #2	48RXE672385	26-33-21N 106-40-45E	0496-10-J2
16	Kuei-yang Cement Plant #3	48RXE664350	26-31-30E 106-40-15E	0496-10-J1

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Item No.	Installation Name	Coordinates		No.	WAC-PIC No.
		UTM	Geographic		
17	Kun-ming Cement Plant	48RTC600688	25-00-45N 102-37-20E	E	0496-11-X
18	Kuo-kuo Cement Plant	47RQV569445 (approx.)	26-35-55N 101-34-40E		--
19	Liu-chou Cement Plant	49RCS225963	24-22-20N 109-15-20E		0497-17-D
20	Liu-li-ho Cement Plant	50SMU161836	39-35-51N 116-01-41E		0381-97-A
21	Miao-tou-chai Cement Plant (Shih-fu)	49SEJ935439	34-44-00N 112-01-00E		0385-39
22	Mu-tan-chiang Cement Plant (Wen-chuan)	52TEE383185	44-25-24N 129-28-58E		0283-50-K
23	Nan-ching Cement Plant (Kiang-nan)	50SPL864590	32-09-25N 118-58-35E	E	0386-17-K1
24	Nan-ching Cement Plant (Lung-tan)	50SPL953603	32-10-07N 119-04-01E		0386-17-U
25	Nan-ping Cement Plant	50RPE156436	26-40-00N 118-10-20E*		0498-36-H
26	Pen-chi Cement Plant (Kung-yuan)	51TWF629720	41-18-11N 123-44-46E		0290-51-F1
27	Pen-chi Cement Plant (South)	51TWF602680	41-15-56N 123-43-10E		0290-51-G
28	Shang-hai Cement Plant	51RUE530488	31-09-40N 121-27-37E		0492-28-V2
29	Ta-tung Cement Plant	49SFQ810286	39-59-08N 113-07-10E		0382-58
30	Tai-yuan Cement Plant	49SFM255933	37-52-00N 112-25-20E		0382-12-A1
31	Tang-shan Cement Plant (Chi-hsin)	50SPJ036878	39-37-47N 118-12-00E		0381-65-D
32	Tzu-po Cement Plant (Nan-ting)	50SNR952680	36-45-10N 118-04-08E		0381-4-A
33	Wan-nien Possible Cement Plant	50RNG062767	28-43-30N 117-03-50E		0493-93
34	Wu-chang Cement Plant	50RKJ532919	30-38-00N 114-26-00E		0493-38-P1
35	Wu-lu-mu-chi Cement Plant	45TWJ456453	43-45-25N 087-34-08E		0330-4-G
36	Wu-sung Cement Plant	51RUE545709	31-21-35N 121-28-25E		0492-37-E
37	Yao-hsien Cement Plant	49SCJ145675	34-56-00N 108-59-00E*		0384-40

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Item No.	Installation Name	Coordinates		WAC-PIC No.
		UTM	Geographic	
38	Ying-te Cement Plant	49RGS492918	24-19-10N 113-27-20E	0498-51-B
39	Yung-an Cement Plant	50RND318793	26-01-40N 117-19-10E	0498-52-A
40	Yung-teng Cement Plant	48SUR408773	36-49-50N 103-13-00E	0383-7

\*NOTE: The geographic coordinates given in the Data Block are from the Basic Encyclopedia and are incorrect. The correct coordinates are:

Item 9	36-26-00N	114-10-20E
Item 25	26-36-25N	118-09-35E
Item 37	34-54-20N	108-59-20E

Action has been initiated through appropriate channels to have the BE corrected.

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Requirement

EXSUBCOM - BR-N/002-69

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## ABSTRACT

This report presents detailed imagery-derived studies of 40 major cement plants in China. Of the plants studied, 37 are complete and considered operational, and they contain at least 86 and probably 92 rotary kilns. The dry process for producing cement is employed at 20 of these plants, 16 utilize the wet process, and one plant uses both. During 1968, 63 rotary kilns were observed in operation at 32 of the plants. No kilns were seen in operation at three of the other completed plants and the remaining two were not seen on photography during the year. The only expansion noted during 1968 was the addition of one kiln to the Kuo-kuo plant.

The report contains a detailed description, an annotated photograph, a discussion of plant status and activity, measurements of rotary kilns, and reference data for each of the plants studied.

## INTRODUCTION

The cement plants in China are distributed fairly uniformly throughout the country (Figure 1) due to the availability of raw materials. Information relative to location, environment, and related installations is presented with the individual descriptions of the plants.

Both the wet and the dry processes are employed for cement production in China. The processes are essentially the same except for the method of preparation of the raw materials. In the dry process the raw materials are crushed, dried in small rotary kilns, and then fine ground before entering the kiln. In the wet process a water-clay slurry is added to the raw material prior to the fine grinding in lieu of the drying process. The composition of this slurry is monitored closely to insure the proper chemical balance of the ingredients. The wet process kilns are frequently longer in order to evaporate this excess water.

There are two kinds of measurements given in this report. The first is the approximate length and width of those rotary kilns that could be seen on the imagery. The second is the length and width of the roof cover of those kilns that are housed. In measuring the uncovered kilns, a total of 15 feet was added to the length of the visible area of each kiln. This 15 feet represents a probable average of that portion of the kiln at both ends that cannot be seen.

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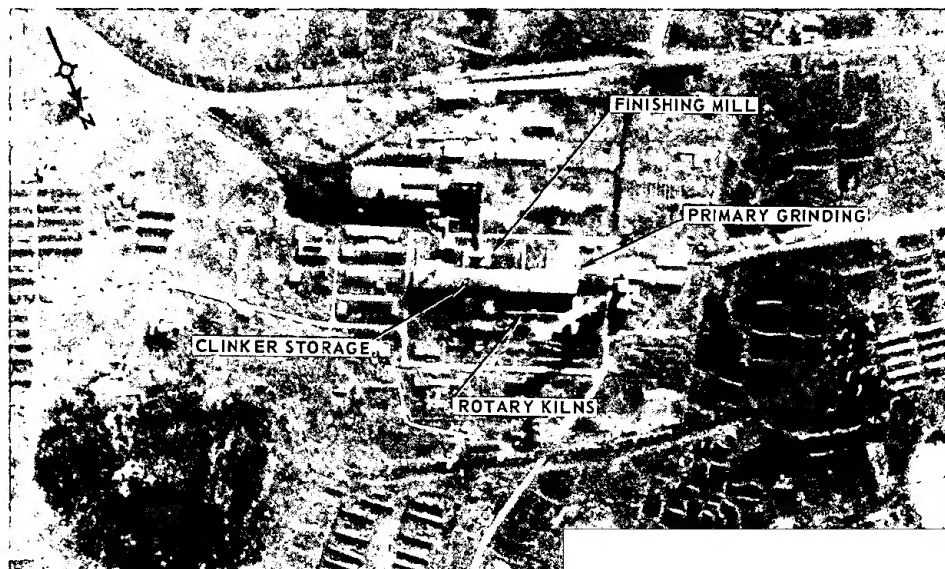
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## CHAO-HSIEN CEMENT PLANT



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## BASIC DESCRIPTION

The Chao-hsien Cement Plant is located 1.9 nm northwest of Chao-hsien. The plant is road and rail served, secured by a wall, and occupies an area approximately 1,500 by 1,350 feet.

This plant produces cement by the dry process. The limestone for this production is obtained from a quarry 0.8 nm west of the plant and is moved to the plant area by truck.

The plant has two exposed rotary kilns, each measuring 275 by 12 feet. The two kilns are served by a single masonry stack.

In addition to those facilities annotated on the photograph, the plant includes a packing and shipping section with six storage silos and a coal preparation facility.

There have been no apparent changes in the plant since 5 November 1967.1/ Smoke was emanating from the stack on both referenced missions indicating at least one of the kilns was operating.

## REFERENCES

25X1

Map

8th RTS. US Air Target Chart, Series 200, Sheet M0493-4HL, 4th edition.  
Apr 68. Scale 1:200,000 (SECRET)

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Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China  
During 1967, April 1968, (TOP SECRET)

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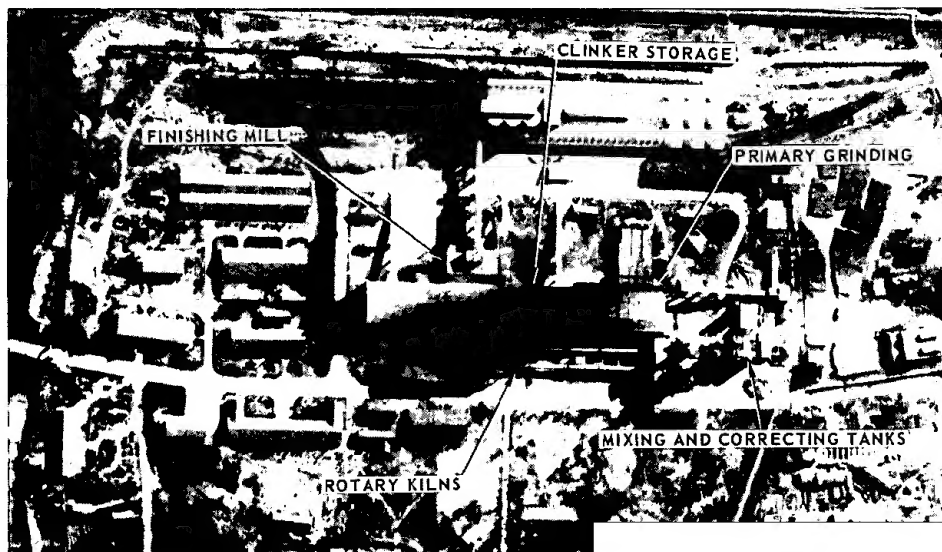
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## CHIANG-SHAN CEMENT PLANT



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## BASIC DESCRIPTION

The Chiang-shan Cement Plant is located 2.7 nm southwest of the center of Chiang-shan. The plant is road and rail served, secured by a wall, and occupies an area approximately 1,550 by 1,200 feet.

This plant produces cement by the wet process. The raw material, probably limestone, is brought in by mine cars from a quarry approximately 1.3 nm west of the plant.

The plant has two rotary kilns, each measuring 280 by 10 feet. The two kilns are served by a single masonry stack, and each has a dust catcher.

In addition to those facilities annotated on the photograph, the plant includes a gypsum preparation section, a coal preparation section, a packing and shipping building with six storage silos, and numerous support buildings. A transformer substation (not shown) with one transformer is located in the north-east corner of the plant.

There have been no apparent changes to this installation since [redacted] / Smoke was visible emanating from both of the dust catchers on imagery of [redacted]

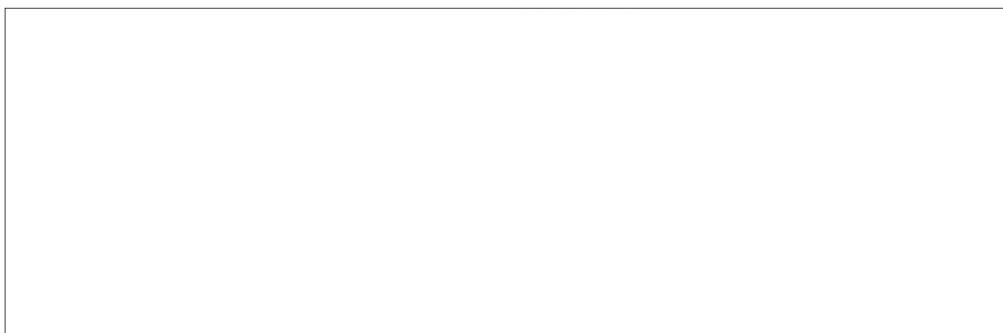
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## REFERENCES

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15th RTS. US Air Target Chart, Series 200, Sheet M0493-24HL, 3rd edition, Oct 67. Scale 1:200,000 (SECRET)

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Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET)

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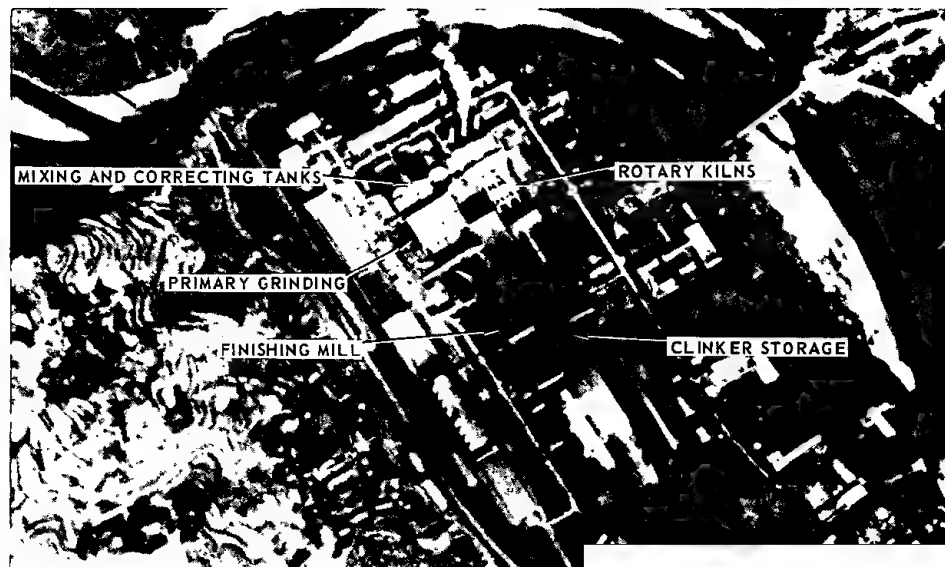
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## CHIEN-KO CEMENT PLANT



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## BASIC DESCRIPTION

The Chien-ko Cement Plant is located approximately 17 nm west of the center of Chien-ko. The plant is road and rail served and is secured by a wall. It occupies an area of approximately 2,200 by 1,200 feet.

This plant produces cement by the wet process. The raw materials for this production are transported to the plant by rail from a quarry 2.6 nm to the north. A conveyor moves the material from the rail siding to the primary crushing and grinding section.

The plant has three rotary kilns, each measuring 415 [ ] feet. Three stacks serve the kilns. In addition to those facilities annotated on the photograph, the plant includes a coal preparation facility, a gypsum preparation section, a packing and shipping building with 16 storage silos, and numerous support buildings.

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There have been no visible changes in the plant since [ ]  
One kiln was observed in operation [ ]

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## REFERENCES

25X1

## Map

ACIC. Tactical Pilotage Chart, Sheet G-9D, May 67, Scale 1:500,000  
(UNCLASSIFIED)

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [ ] (TOP SECRET) [ ]

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## CHIN-HSI CEMENT PLANT

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## BASIC DESCRIPTION

The Chin-hsi Cement Plant is located on the northern outskirts of Lien-shan (Chin-hsi) approximately 1.5 nm northwest of Chin-hsi Airfield [REDACTED]. The plant is road and rail served, secured by a wall, and encompasses an area of approximately 2,700 by 1,250 feet.

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This plant appears to be using the dry process in the production of cement. The raw materials used in this plant are brought in by rail and moved by an underground conveyor system to the primary grinding facility. There are three rotary kilns, each measuring 180 by 10 feet. The three are served by two masonry stacks, one of which serves two of the kilns.

In addition to those facilities annotated on the photograph, the plant includes a packing and shipping building with eight storage silos, a spray pond, a coal preparation facility, and numerous support buildings.

There have been no visible changes to this plant since [REDACTED]. Smoke was emanating from the stack serving two kilns on [REDACTED] [REDACTED] indicating that at least one kiln and possibly two were operating. No smoke was observed at the plant on [REDACTED] possibly due to the quality of the imagery.

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## REFERENCES

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## Map

15th RTS. US Air Target Chart, Series 200, Sheet M0289-24HL, 3rd edition, Sep 66. Scale 1:200,000 (SECRET [REDACTED])

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## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [REDACTED] (TOP SECRET [REDACTED])

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## CHIU-CHIANG CEMENT PLANT



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## BASIC DESCRIPTION

The Chiu-chiang Cement Plant is located 9.3 nm southeast of the center of Chiu-chiang. The plant is secured by a wall and occupies an area measuring approximately 650 by 535 feet. The plant is road served, and a narrow gauge rail line extends from the plant to a transshipment point 1.8 nm east on Po-yang Hu (lake).

This plant produces cement by the wet process. The raw materials for this production are brought in by barge, unloaded at the transshipment point and moved to the plant by rail.

The plant has one rotary kiln which measures [redacted]. In addition to those facilities annotated on the photograph, the plant includes a gypsum preparation facility, a coal preparation mill, a packing and shipping building with six storage silos, and several support buildings. 25X1

There have been no visible changes in the plant since [redacted]. Smoke was emanating from the kiln stack on coverage of [redacted] but none was visible on [redacted]. 25X1 25X1 25X1

## REFERENCES

25X1

## Map

15th RTS. US Air Target Chart, Series 200, Sheet M0493-12HL, 2nd edition, Oct 67. Scale 1:200,000 (SECRET [redacted])

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## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

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## CHUNG-CHING CEMENT PLANT

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## BASIC DESCRIPTION

The Chung-ching Cement Plant is located 2 nm southeast of the center of Chung-ching, China. The plant is road and water served, partially secured by a wall and occupies an area approximately ,500 by 1,000 feet.

This plant produces cement using the wet process. The raw materials (probably limestone) are brought in by barge and moved to the grinding facilities by a conveyor. There are two rotary kilns in this plant. One is an exposed kiln which measures 300 by 10 feet. Due to the obliquity of the photography the second kiln could not be measured. There were probably five kilns in this plant, but three appear to have been removed prior to [REDACTED] 1/ In addition to the annotated items, the plant includes a gypsum preparation facility, a coal preparation facility, a packing and shipping building with four large storage silos, and several support buildings.

25X1

There was no smoke emanating from the three masonry stacks on the referenced missions.

## REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet M0495- 9HL, 3rd edition, Mar 68, Scale 1:200,000 (SECRET [REDACTED])

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Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [REDACTED] (TOP SECRET [REDACTED])

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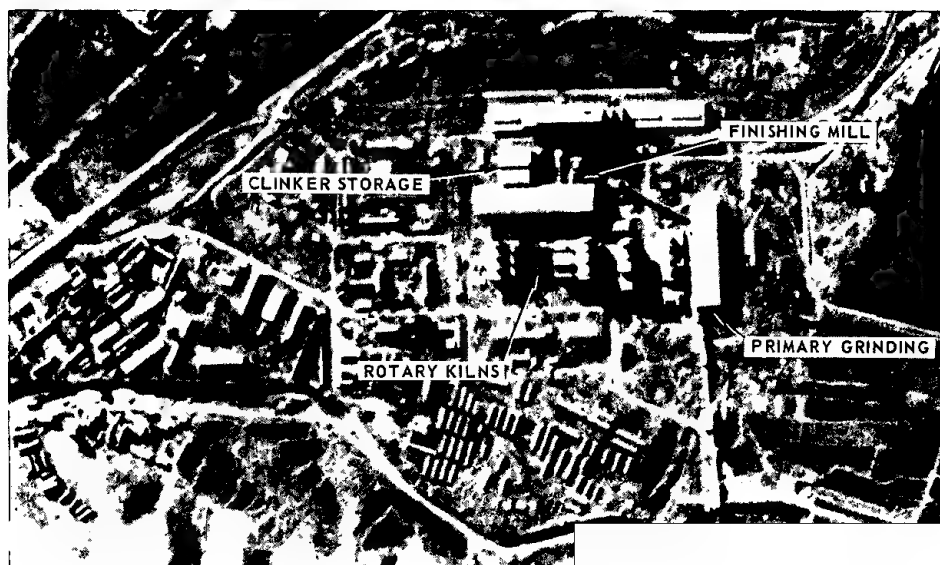
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## FENG-FENG CEMENT PLANT



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## BASIC DESCRIPTION

The Feng-feng Cement Plant is located approximately 2 nm southwest of Feng-feng and 17 nm southwest of Han-tan. The plant area is road and rail served and encompasses an area approximately 3,000 by 2,200 feet. The small scale of the imagery precluded identification of any security measures.

This plant produces cement using the dry process. The raw materials for this production are quarried approximately 1.5 nm to the northeast. In addition to those items annotated the plant includes a packing and shipping building with 14 silos, a coal stockpile, and support buildings. There are three rotary kilns and each measures 145 [redacted] There is a stack for each kiln.

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There has been no change to this plant since [redacted] 1/ There was no smoke emanating from the stacks on the referenced missions.

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## REFERENCES

25X1

## Map

15th RTS. US Air Target Chart Series 200, Sheet M0382-24HL, 3rd edition, Aug 67, Scale 1:200,000 (SECRET [redacted])

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## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

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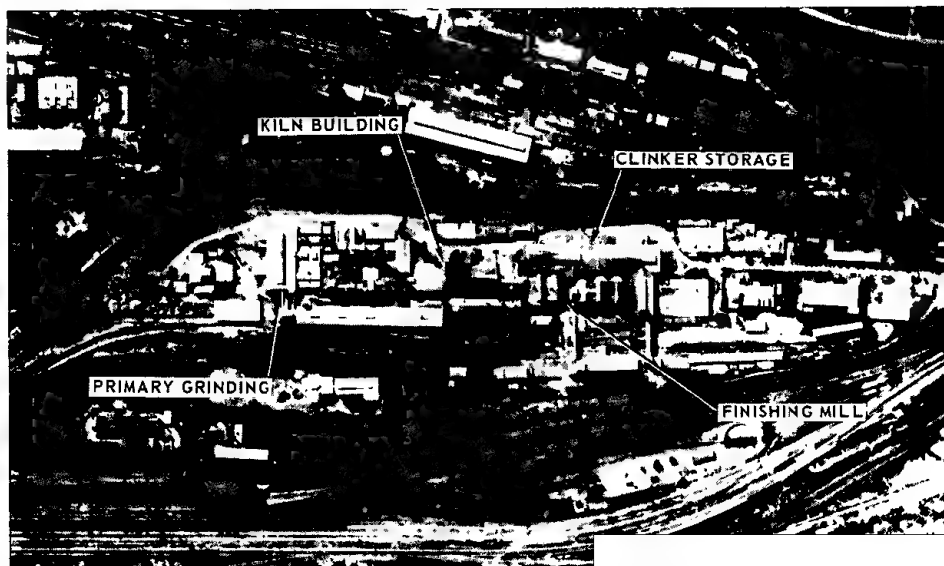
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## FU-SHUN CEMENT PLANT



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## BASIC DESCRIPTION

The Fu-shun Cement Plant is located within the town of Fu-shun and is adjacent to the Fu-shun Shale Oil Plant West [REDACTED]. The plant is road and rail served, secured by a wall and occupies an area approximately 2,300 by 530 feet.

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The plant produces cement by the dry process. The raw materials, probably limestone, are brought in by rail and unloaded at the raw materials storage building. There are two rotary kilns housed in a building measuring approximately 300 by 75 feet. There are two offset masonry stacks to serve the kilns.

In addition to the items annotated on the photograph, the plant includes a gypsum preparation facility (at the west end of the plant), a coal preparation facility (adjacent to the kiln building), a packing and shipping building with ten storage silos, and several support buildings.

There have been no visible changes in the plant since [REDACTED] / There was no evidence of smoke from the stacks on coverage of [REDACTED]. However, on [REDACTED] smoke was emanating from both stacks.

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## REFERENCES

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## Map

[REDACTED] US Air Target Chart, Series 200, Sheet M0290-IIHL, 4th edition, Jan 66. Scale 1:200,000 (SECRET [REDACTED])

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## Document

1. CIA. DD / IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [REDACTED] (TOP SECRET [REDACTED])

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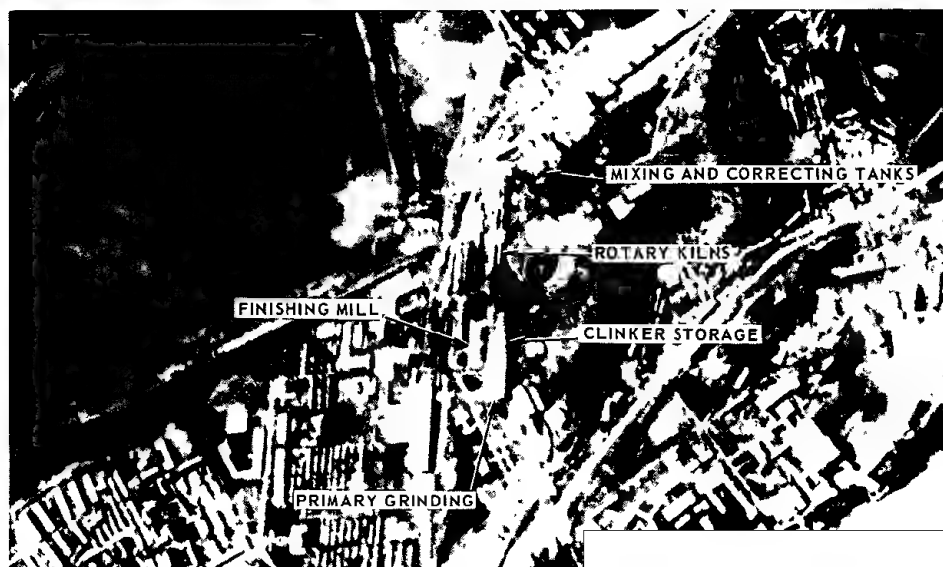
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## HUANG-SHIH CEMENT PLANT



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## BASIC DESCRIPTION

The Huang-shih Cement Plant is located in the center of Huang-shih-chiang. It is rail served and partially secured by a wall. The irregularly shaped plant area is approximately 2,300 by 600 feet.

This plant produces cement using the wet process. The raw materials (probably limestone) are brought in by rail and unloaded into a large storage building. There are two rotary kilns measuring 385 [ ] feet with a dust catcher for each. There are two large beneficiating tanks located adjacent to the kilns.

25X1

In addition to those items annotated on the photograph, the plant includes a coal preparation facility, a gypsum preparation facility, a packing and shipping building with 19 silos, and several support buildings.

There has been no coverage of this plant since [ ]. On that coverage a light amount of smoke was emanating from the dust catchers. There have been no visible changes in the plant since [ ].

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## REFERENCES

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## Map

2nd RTS. US Air Target Chart, Series 200, Sheet M0493-11HL, 4th edition, July 1968, Scale 1:200,000 (SECRET [ ])

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## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [ ] (TOP SECRET [ ])

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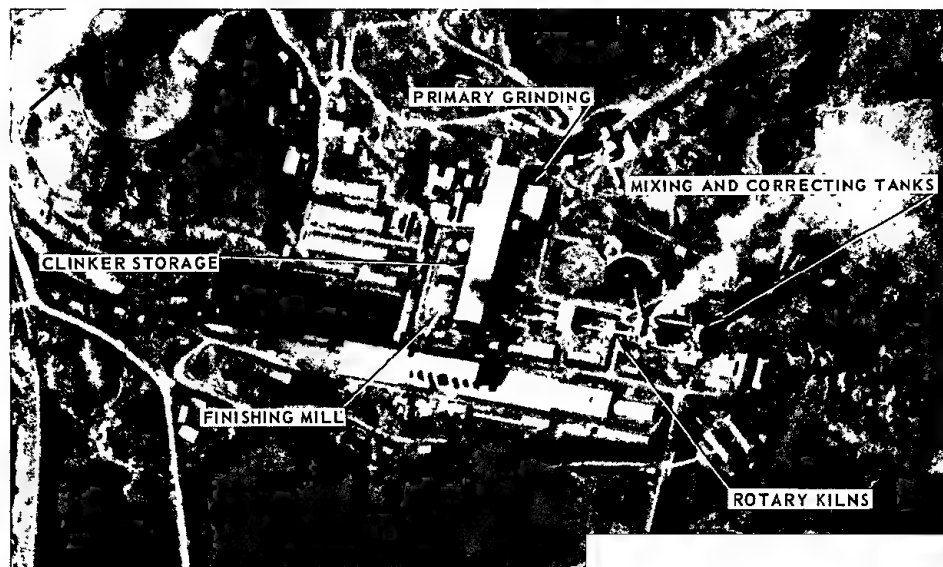
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## KU-SHUI CEMENT PLANT



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## BASIC DESCRIPTION

The Ku-shui Cement Plant is located 17.1 nm west of Hsiang-hsiang. The plant is road and rail served, partially secured by a wall, and occupies an area of approximately 1,700 by 1,100 feet.

This plant produces cement by the wet process. The raw material for this production is brought in by a conveyor system from a quarry approximately 1,250 feet north of the plant. There are two rotary kilns, each measuring 345 by 10 feet. Each kiln has a dust catcher and there is one masonry stack.

In addition to those facilities annotated on the photograph, the plant includes a coal preparation facility, a gypsum preparation facility, a packing and shipping building with 12 storage silos, and numerous support buildings.

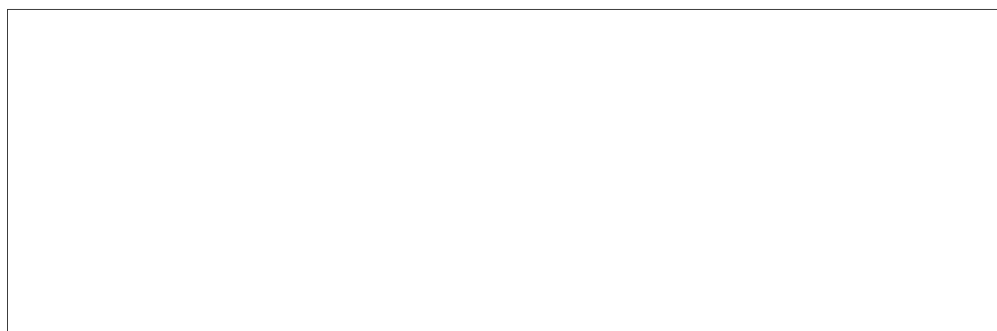
There have been no visible changes in the plant since [redacted] 1/ [redacted] 1/ Smoke was observed emanating from one dust catcher on [redacted] but there was no evidence of dust or smoke on any of the other referenced missions.

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## REFERENCES

25X1



Map

15th RTS. US Air Target Chart, Series 200, Sheet M0497-5HL, 2nd edition, Nov 65, Scale 1:200,000 (SECRET [redacted])

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Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

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## KUANG-CHOU CEMENT PLANT

25X1

## BASIC DESCRIPTION

The Kuang-chou Cement Plant is located 2 nm northwest of the center of Kuang-chou (Canton) and 1.5 nm southwest of the Kuang-chou/Pai-yun Airfield

The plant is road and rail served and is secured within a walled area approximately 1,900 by 1,050 feet.

25X1

This plant uses the wet process to produce cement. Raw materials for this production are brought in by rail and barge. The raw material storage building is outside the security of the plant and the material is moved to the primary grinding facility on an overhead conveyor. There are four rotary kilns in this plant, three of which are covered. The kiln building measures 325 by 90 feet. The fourth kiln is uncovered and measures 375 by 10 feet. Each of the kilns has a dust catcher. The finishing mill is located on the east side of the clinker storage building. There are 12 silos for storing cement prior to packing and shipping. In addition, facilities in this plant include two coal preparation facilities, a gypsum preparation facility located south of the clinker storage building, and numerous support buildings.

There have been no changes to the plant facilities since [redacted] 1/ There was smoke emanating from all the dust catchers on [redacted]

[redacted] there was smoke emanating from only two of the dust catchers.

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## REFERENCES

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Map

[redacted] US Air Target Chart, Series 200, Sheet M0614-6HL, 5th edition, May 68, Scale 1:200,000 (SECRET [redacted])

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Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

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KUEI-YANG CEMENT PLANT NO. 2

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## BASIC DESCRIPTION

The Kuei-yang Cement Plant No. 2 is located 2 nm southwest of the center of Kuei-yang. This facility is road served and is partially secured within a walled area approximately 1,000 by 780 feet.

This small plant produces cement using the dry process. The facilities include a primary crushing and grinding section, a kiln building (230 by 40 feet) housing one rotary kiln, a coal preparation building, a clinker storage building, a finishing mill, and four storage silos.

The plant was constructed prior to December 1962. Since December 1962 a conveyor connecting the cement plant with an adjacent lime plant was installed, the crushing and grinding facilities were enlarged, and two of the four storage silos were added. An underground conveyor system for moving cement from the finishing mill to the silos was also added. A light to moderate amount of smoke was emanating from the stack on all coverage referenced except that of December 1962.

## REFERENCES

25X1

Map

15th RTS. US Air Target Chart Series 200, Sheet M0496-10HL, 2nd edition, Oct 65, Scale 1:200,000 (SECRET)

25X1

25X1

-20-

TOP SECRET

25X1

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TOP SECRET

25X1

25X1

## KUN-MING CEMENT PLANT

25X1

## BASIC DESCRIPTION

The Kun-ming Cement Plant is located 5 nm southwest of the center of Kun-ming. The plant is road and rail served and is secured within a walled area approximately 2,400 by 850 feet.

This plant produces cement using the wet process. Limestone is obtained from a quarry located 1 nm west of the plant. The primary crushing facilities are located at the quarry and the crushed material is transported to the production facilities by an overhead conveyor. The plant includes a primary grinding mill, mixing and correcting tanks, two rotary kilns (each 385 [redacted]), a clinker storage building, a coal preparation area, a finishing mill, and ten storage silos.

25X1

This plant is complete and there has been no construction since [redacted]

25X1

[redacted] There was no smoke emanating from the dust catchers on coverage of [redacted]

25X1

[redacted] smoke was emanating from one dust catcher, and on [redacted] there was smoke from both dust catchers.

25X1

25X1

## REFERENCES

25X1

## Map

ACIC. US Air Target Chart Series 200. Sheet M0496-17HI. 3rd edition. Jan 68, Scale 1:200,000 (SECRET [redacted])

25X1

25X1

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

25X1

TOP SECRET

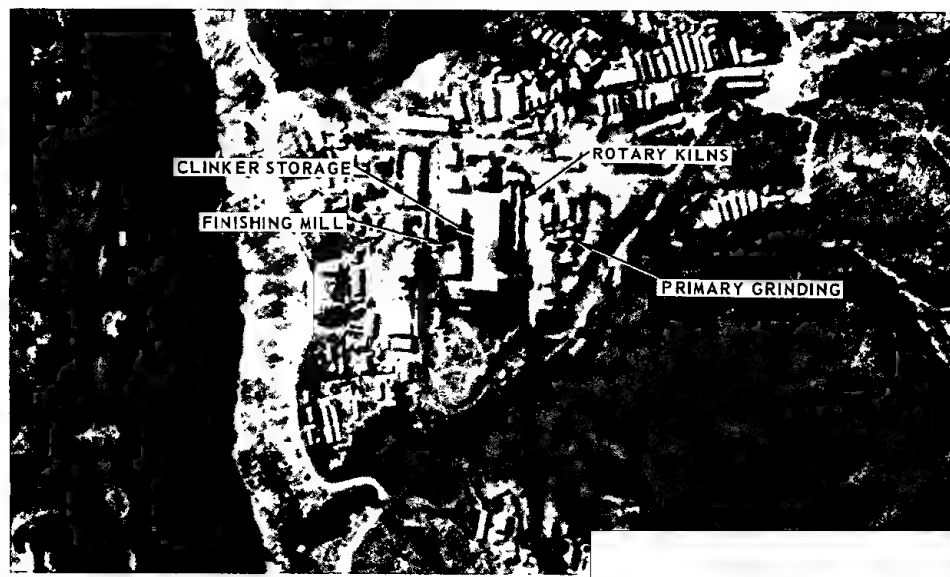
25X1

TOP SECRET

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25X1

## KUO-KUO CEMENT PLANT



25X1

## BASIC DESCRIPTION

The Kuo-kuo Cement Plant is located approximately ten nm northwest of Jen-ho-chieh. The plant is road served, has no apparent security, and covers an area approximately 1,150 by 1,050 feet.

This plant produces cement by the dry process. A quarry, the source of raw material, is located one-half nm north of the plant. Some crushing of the raw material occurs here. In addition to those facilities annotated on the photograph, the plant includes mixing silos and eight storage silos. Each of the two rotary kilns measures 300 [ ] feet.

25X1

One kiln was added between April 1967 and January 1968. There have been no other apparent changes in the plant since [ ]/ The plant was first observed in operation in February 1969.

25X1

## REFERENCES

25X1

## Map

AMS. Series L500, NG 47-8, Yung-sheng (Yungpeh), China, Scale 1:250,000, 1st edition, 1954 (UNCLASSIFIED)

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [ ] (TOP SECRET [ ])

25X1

TOP SECRET

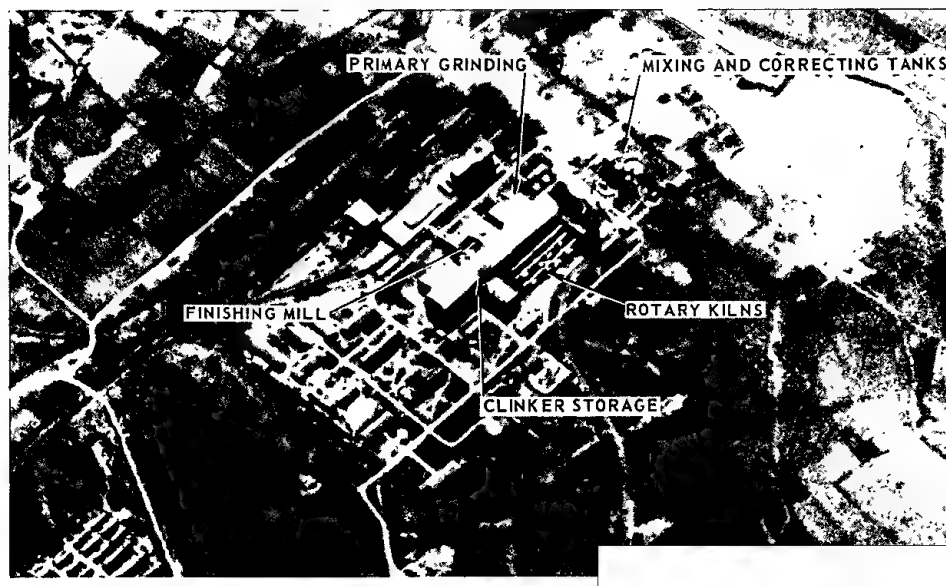
25X1

TOP SECRET

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## LIU-CHOU CEMENT PLANT



25X1

## BASIC DESCRIPTION

The Liu-chou Cement Plant is located 8.5 nm northwest of Liu-chou. The plant is road and rail served, secured by a wall, and occupies an area of approximately 2,000 by 1,550 feet.

This plant produces cement by the wet process. The raw material, probably limestone, is brought in by rail from a quarry 0.5 nm northeast of the installation. The plant has three rotary kilns. Each kiln measures 410 by 10 feet and has a dust catcher.

In addition to those facilities annotated on the photograph, the plant includes a packing and shipping building with six storage silos, a coal preparation facility, a gypsum preparation facility and numerous support buildings.

There have been no visible changes in the plant since [redacted] 1/ Smoke was emanating from all the dust catchers on both referenced missions.

25X1

## REFERENCES

25X1

Map

ACIC. US Air Target Chart, Series 200, Sheet M0497-22HL, 2nd edition, Apr 65, Scale :200,000 (SECRET [redacted])

25X1  
25X1

Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

25X125X1

TOP SECRET

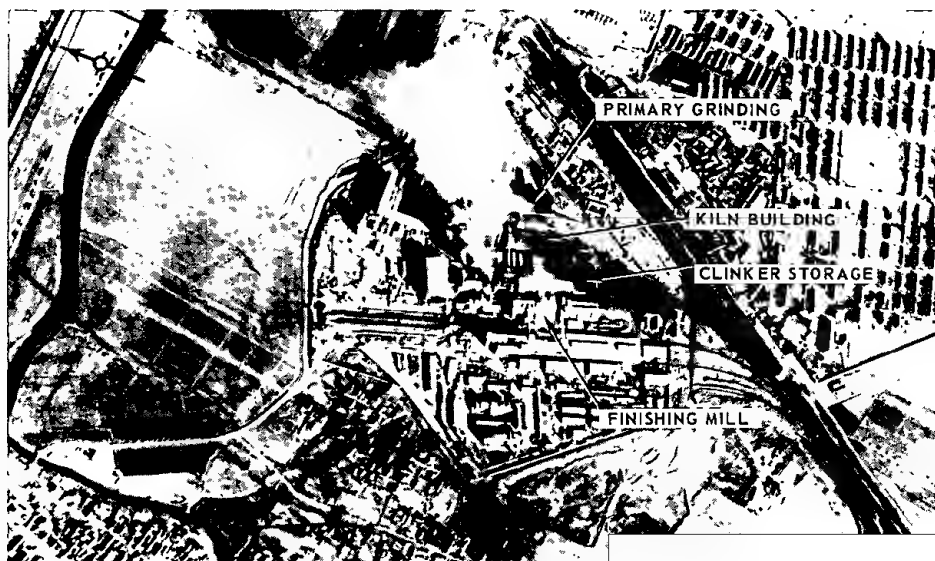
25X1

TOP SECRET

25X1

25X1

## LIU-LI-HO CEMENT PLANT



25X1

## BASIC DESCRIPTION

Liu-li-ho Cement Plant is located on the western outskirts of Liu-li-ho which is approximately 25 nm southwest of Peking (Pei-ching). The plant is road and rail served, occupies an area approximately 2,000 by 1,800 feet and is secured by a wall.

This plant produces cement using the dry process. The kilns are under roof and their number cannot be determined directly. The presence of two large stacks indicates that there are probably two. The kiln building is irregularly shaped and the limits of that part of it which houses the kilns cannot be determined.

A probable gypsum preparation facility is located immediately north of the finishing mill and clinker storage building. This facility includes a storage building, a probable grinding mill, and a drying kiln. In addition the cement plant has a large spray pond, at least sixteen storage silos, a bag house, raw material and coal stockpiles, and support facilities.

At least one stack was observed emanating heavy smoke on coverage of [redacted] 25X1  
 [redacted] and light smoke on [redacted] 25X1  
 There has been [redacted] 25X1  
 no change to the plant facilities since [redacted] 1/

## REFERENCES

25X1

Map

ACIC. USATC Series 200, Sheet M0381-IHL, 4th edition, Nov 65, Scale 1:200,000

(SECRET)

25X1

25X1

Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET) [redacted]

25X1

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-25-

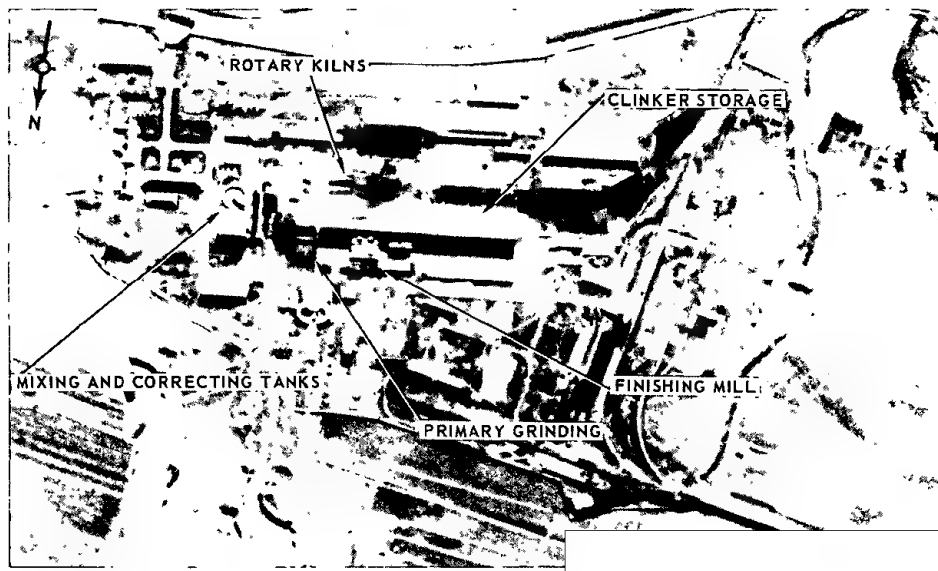
TOP SECRET

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25X1

25X1

## MIAO-TOU-CHAI CEMENT PLANT (SHIH-FU)



25X1

## BASIC DESCRIPTION

The Miao-tou-chai Cement Plant (Shin-fu) is located 0.8 nm east of Miao-tou-chai and 22.7 nm east of the center of Lo-yang. It is road and rail served, secured by a wall, and occupies an area of approximately 2,500 by 1,200 feet.

This plant produces cement by the wet process. The raw materials for the production of cement are obtained from two quarries located 1 and 2 nm north of the plant.

The plant has two rotary kilns served by a single stack. Each kiln measures approximately 165 by 10 feet. In addition to those facilities annotated on the photograph, the plant includes an administration building, a packing and shipping building with 12 storage silos, and two raw materials receiving areas. A transformer substation (not shown) with one transformer is located approximately 1,200 feet north of the plant perimeter.

The roof of the clinker storage building was being extended on coverage of 18 December 1967 and was completed prior to [redacted]. There have been no other changes to the plant facilities. Smoke was emanating from the stack on [redacted]. On coverage of [redacted] no smoke was evident but there appeared to be dust in the air at the west end of the kilns.

25X1

25X125X1

## REFERENCES

25X1

## Map

15th RTS. US Air Target Chart, Series 200, Sheet M0385-8HL, 2nd edition, May 66, Scale 1:200,000 (SECRET [redacted])

25X1

25X1

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

25X1

TOP SECRET

25X1

TOP SECRET

25X1

25X1

## MU-TAN-CHIANG CEMENT PLANT (WEN-CHUAN)

25X1

## BASIC DESCRIPTION

The Mu-tan-chiang Cement Plant (Wen-chuan) is located in the western sector of Wen-chuan and 10.8 nm southwest of Mu-tan-chiang. The plant is rail served, partially secured by a wall, and occupies an area 3,000 by 1,600 feet.

This plant produces cement using the dry process. Raw materials for this production are brought in by rail car. There is one rotary kiln housed in a building measuring 250 by 40 feet. The clinker is moved to a clinker storage building, 500 feet to the south, by a conveyor that is partially underground. There are two finishing mills each with a packing and shipping building. The east packing and shipping building has six storage silos and the west has five.

In addition to the annotated items on the photograph, the plant includes a gypsum preparation facility, four mixing and blending silos and numerous support buildings.

There have been no changes in the plant since [redacted] // The plant did not appear to be operating on [redacted] but was operating on [redacted]

25X1

25X1

25X1

## REFERENCES

25X1

## Map

15th RTS. US Air Target Chart, Series 200, Sheet M0283-25HL, 4th edition, Oct 68, Scale 1:200,000 (SECRET) [redacted]

25X1

25X1

## Documents

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET)

25X1

-27-

TOP SECRET

25X1

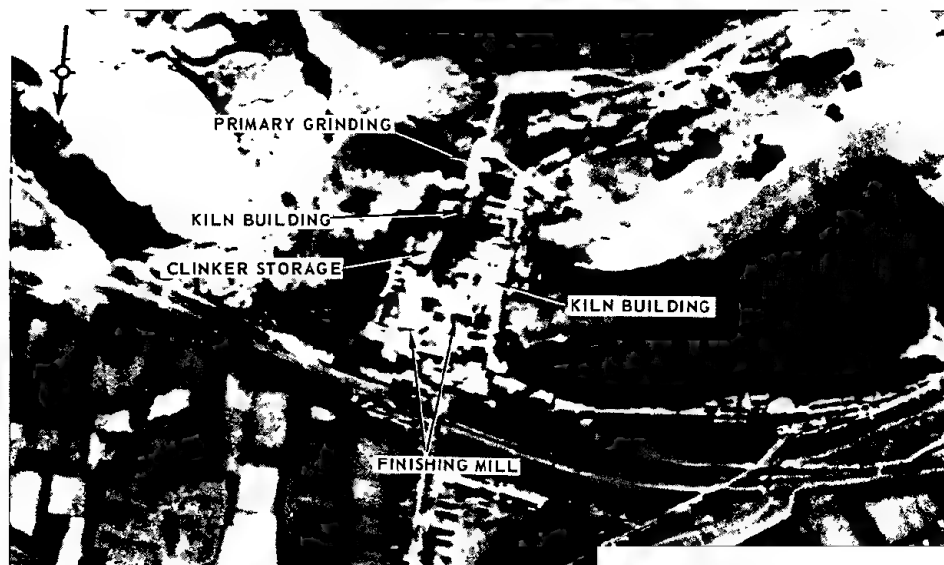
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25X1

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## NAN-CHING CEMENT PLANT (LUNG-TAN)



25X1

## BASIC DESCRIPTION

The Nan-ching Cement Plant (Lung-tan) is located approximately 15 nm north-east of Nan-ching, China. The plant is road and rail served, secured by a wall, and occupies an area approximately 2,000 by 800 feet.

This plant uses the dry process to produce cement. An accurate determination of the number of kilns within the plant was difficult due to poor image quality and the roof covering on the kiln buildings. However, judging from the stacks connected to the kiln buildings there are at least three, and possibly four kilns in this plant. Measurements have not been provided due to the poor image quality of the available coverage.

It appears that there are two production lines in this plant. A single primary grinding facility supplies both lines with raw material. At the north end of the plant there are two finishing mills and two packing and shipping buildings. The east line has four silos and the west line has five silos.

In addition to those items annotated on the photograph, the plant includes a gypsum preparation facility, a coal preparation facility, and numerous support buildings.

Smoke was observed at one of the three stacks on coverage of [REDACTED]. No other plant activity was observed due to the poor quality imagery. There have been no apparent changes since [REDACTED].

25X1

25X1

## REFERENCES

25X1

Map

8th RTS. US Air Target Chart, Series 200, Sheet MQ386-23HL, 4th edition. Aug 68, Scale 1:200,000 (SECRET [REDACTED])

25X1

25X1

Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [REDACTED] (TOP SECRET [REDACTED])

25X1

TOP SECRET

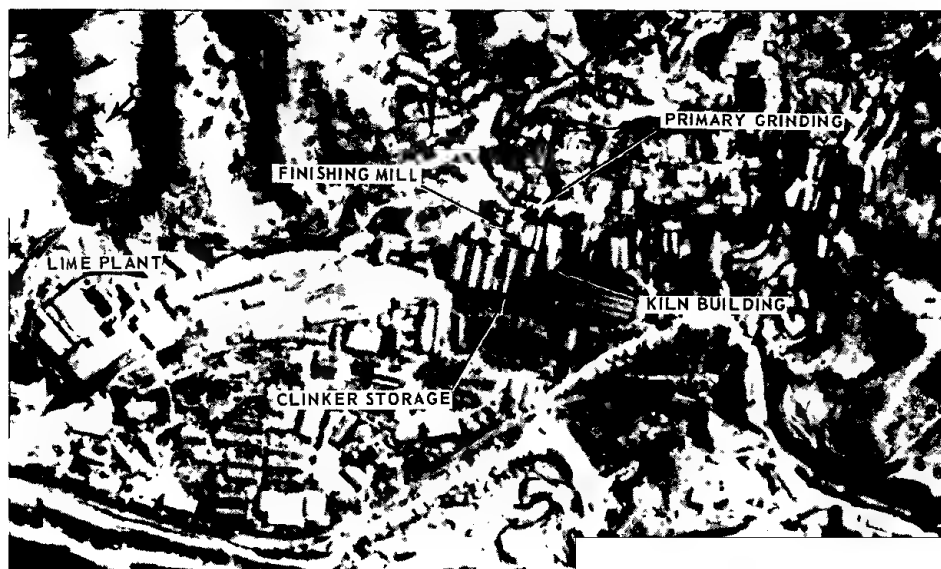
25X1

TOP SECRET

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## NAN-PING CEMENT PLANT



25X1

## BASIC DESCRIPTION

The Nan-ping Cement Plant is located approximately 23 nm south of the center of Nan-ping, China. It is road and rail served and occupies an area approximately 1,000 by 750 feet. There is no apparent security system for the plant.

This plant produces cement using the dry process. The limestone for this production is taken from a quarry approximately 3,500 feet to the south. This quarry also supplies limestone to a lime plant just north of the cement plant.

There are two rotary kilns housed in a building 350 by 75 feet and there is a masonry stack for each kiln.

In addition to the annotated items, the plant includes a gypsum preparation facility, a coal preparation facility, and a packing and shipping building with eight storage silos.

There have been no visible changes in this plant since [redacted] / There was smoke emanating from both stacks on both missions referenced.

25X1

## REFERENCES

25X1

## Map

548th RTS. US Air Target Chart, Series 200, Sheet M0498-10HL, 3rd edition, Apr 68, Scale 1:200,000 (SECRET [redacted])

25X1

25X1

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

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TOP SECRET

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**TOP SECRET**25X125X1  
25X1

## PEN-CHI CEMENT PLANT (KUNG-YUAN)

25X1

## BASIC DESCRIPTION

The Pen-chi Cement Plant (Kung-yuan) is located 1 nm northwest of the center of Pen-chi. The plant is road and rail served and is secured within a walled area approximately 2,200 by 700 feet.

This plant produces cement using the dry process. The facilities in this plant include a primary crushing and grinding section, two covered rotary kilns (kiln building - 500 by 40 feet), a clinker storage building, a finishing mill and a packing and shipping area with nine storage silos. In addition there is a coal preparation area, a spray pond, and several support buildings.

There have been no changes in the plant since [REDACTED]. There was no smoke emanating from the stack on any of the referenced imagery.

25X1

## REFERENCES

25X1

## Map

[REDACTED] US Air Target Chart, Series 200, Sheet M0290-16HL, 4th edition, Jul 65, Scale 1:200,000 (SECRET [REDACTED])

25X1  
25X1

25X1

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [REDACTED] (TOP SECRET [REDACTED])

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**TOP SECRET**25X1  
25X1

TOP SECRET

25X1

25X1

PEN-CHI CEMENT PLANT SOUTH

25X1

BASIC DESCRIPTION

The Pen-chi Cement Plant South is located 2.9 nm southwest of the center of Pen-chi. It is road and rail served and is secured within a walled area approximately 2,000 by 1,100 feet.

This plant produces cement using the dry process. Limestone for this production is obtained from a quarry approximately 1,500 feet south of the plant. The initial crushing is completed at the quarry and the crushed material is moved to the plant via a conveyor system. The primary grinding facility has one drying kiln and six mixing and blending silos. There are two rotary kilns housed in a building 220 by 80 feet with a flue system and stack for each. The packing and shipping area has ten large silos for storing cement. In addition to the annotated items, the plant has a coal preparation facility, a gypsum preparation area, and numerous support buildings.

This plant is complete and there has been no construction since [redacted] 1967. There was no smoke emanating from either stack on coverage of 3 February and [redacted] there was smoke emanating from both stacks, and on [redacted] there was smoke from only one stack.

25X1

25X1

25X1

REFERENCES

25X1

Map

[redacted] JS Air Target Chart Series 200, Sheet M0290-16HL, 4th edition, Jul 65, Scale 1:200,000 (SECRET [redacted])

25X1

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Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

25X1

TOP SECRET

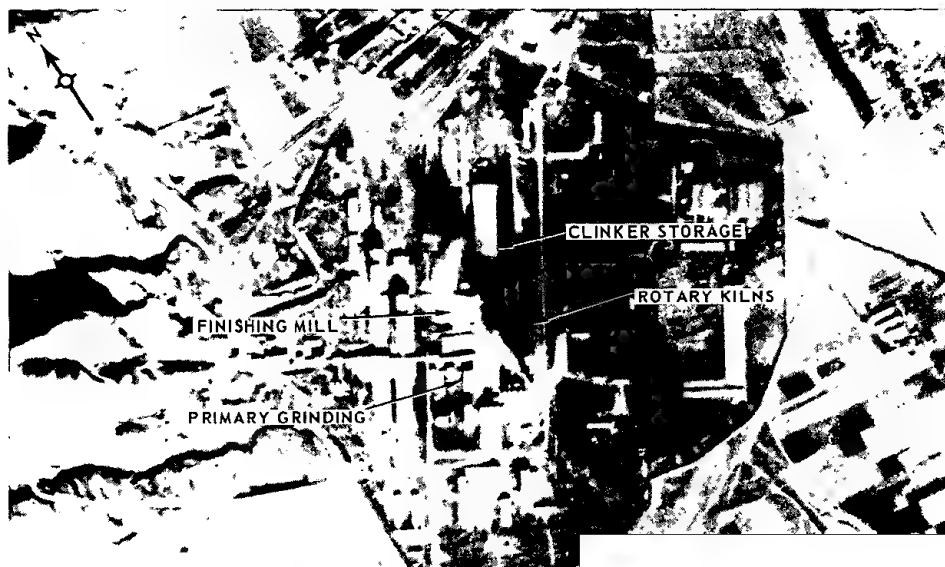
25X1

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TOP SECRET

25X1

## TA-TUNG CEMENT PLANT



25X1

## BASIC DESCRIPTION

The Ta-tung Cement Plant is located 1 nm southwest of Kou-chuan-chen and 10.8 nm southwest of Ta-tung. The plant is rail served, secured by a wall, and occupies an area of approximately 2,550 by 2,150 feet.

This plant produces cement using the dry process. The raw materials (probably limestone) are obtained from a quarry just west of the plant. An overhead conveyor moves the raw material from the crushing area to the primary grinding facility. There are four rotary kilns measuring 315 by 10 feet. Each kiln has a dust catcher.

In addition to the annotated items on the photograph, the plant includes a gypsum preparation facility, a coal preparation mill located at the north end of the kilns, a packing and shipping building with 22 silos and numerous support buildings.

There has been no visible change in the plant since [redacted] 1/ [redacted] There were two kilns in operation on [redacted] the only available coverage.

25X1  
25X1

## REFERENCES

25X1

## Map

15th RTS. US Air Target Chart, Series 200, Sheet MQ382-3HL, 2nd edition, July 1967, Scale 1:200,000 (SECRET [redacted])

25X1  
25X1

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

25X1

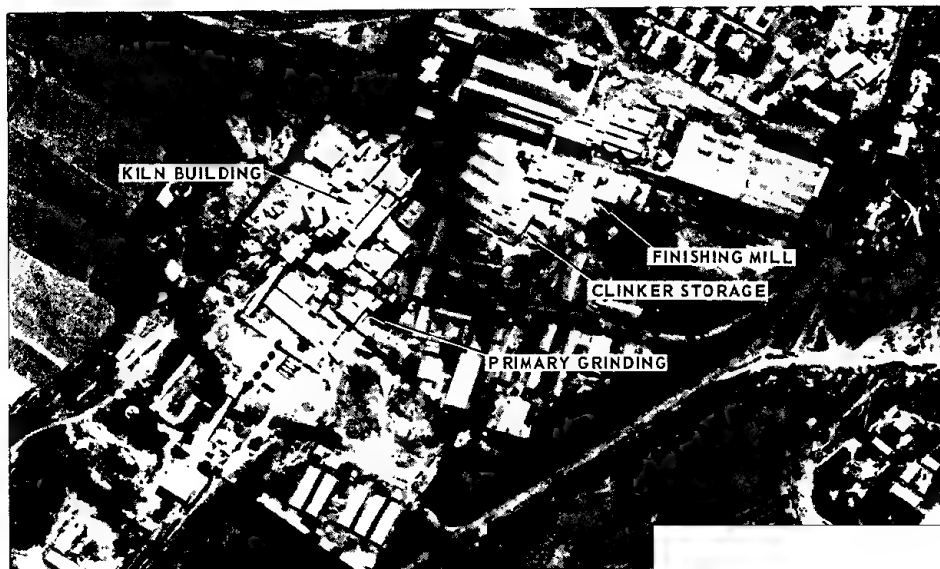
TOP SECRET

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25X125X1

## TAI-YUAN CEMENT PLANT



25X1

## BASIC DESCRIPTION

The Tai-yuan Cement Plant is located approximately 6.5 nm from the center of Tai-yuan. The plant is road and rail served and is partially secured within an irregularly shaped area that is approximately 1,350 by 900 feet.

This plant produces cement using the dry process. The raw material is stored in five silos and conveyed as needed to the primary grinding section.

The plant appears to have two covered rotary kilns. The kiln building measures approximately 215 by 75 feet. Two offset stacks serve the kilns. In addition to those facilities annotated on the photograph, the plant includes a coal preparation facility, a gypsum preparation section, a packing and shipping building with six storage silos, and numerous support buildings.

There have been no visible changes in the plant since [redacted]. Smoke was emanating from at least one of the stacks in November 1968 and March 1969, but none could be observed in July 1968.

25X1

## REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet M0382-13HL, 3rd edition, Jun 67, Scale 1:200,000 (SECRET [redacted])

25X1

25X1

Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

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-35-

TOP SECRET

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TOP SECRET

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25X1

## TANG-SHAN CEMENT PLANT (CHI-HSIN)

25X1

## BASIC DESCRIPTION

The Tang-shan Cement Plant (Chi-hsin) is located in Tang-shan near the Tang-shan Steel Plant [redacted] and 1 nm southeast of the Tang-shan Thermal Power Plant (Chi-hsin) [redacted]. The plant is road and rail served, secured by a wall, and occupies an area approximately 2,200 by 900 feet.

25X1

This plant produces cement using the dry process. The raw materials are obtained from a quarry northwest of the plant and possibly from the blast furnace slag pile of the nearby steel plant. There are four kiln buildings in the plant with a probable total of six rotary kilns. The southernmost kiln building measures 250 by 65 feet. The other kiln buildings could not be measured because of smoke and roof configuration.

The plant appears to have been built in successive stages as there are two production flow lines with a duplication of the major facilities. The coal preparation facility located adjacent to the north kiln buildings and the gypsum preparation facility attached to the clinker storage building are the only major facilities not duplicated. There are three small drying kilns associated with the gypsum preparation facility. The coal preparation facility also supplies fuel for a small steam plant on the north edge of the plant.

There are three large packing and shipping buildings in the plant. The southern building has seven storage silos while the two at the north end have a total of eleven. In addition there is a possible concrete batch plant adjacent to the clinker storage building.

Two small support buildings at the south end of the plant were completed between [redacted] [redacted]. No other changes have occurred since [redacted] 17. There were two kilns operating on all coverage referenced except that of [redacted] when no smoke or dust was emanating from the plant area.

25X1

25X1

25X1

## REFERENCES

25X1

TOP SECRET

25X1

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TOP SECRET

25X1

25X1

## TZU-PO CEMENT PLANT (NAN-TING)



25X1

## BASIC DESCRIPTION

The Tzu-po Cement Plant (Nan-ting) is located adjacent to the Tzu-po Alumina-Aluminum plant [redacted] approximately 3 nm south of the center of Tzu-po (Chang-tien). The plant is road and rail served and is secured by a wall.

25X1

This plant produces cement by the wet process. The raw materials for this production are obtained from the red mud waste area associated with the alumina plant. This waste is high in silicates and is good material for the production of cement.

There are four rotary kilns located on the west side of the plant. Three of the four are complete and were observed prior to November 1967.1/ The fourth was added between May and November 1968. The drive motor for this kiln apparently had not been installed as of November 1968. Two of the kilns measure approximately 165 by 10 feet each and the other two approximately 190 by 10 feet each.

In addition to those facilities annotated on the photograph, the plant includes a packing and shipping building with 12 silos, a coal preparation facility, and several support buildings.

On [redacted] the kilns were not in operation. On [redacted] two and possibly three kilns appeared to be in operation.

25X1

25X1

## REFERENCES

25X1

Map

15th RTS. US Air Target Chart, Series 200, Sheet M0381-22HL, 4th edition, Jul 68 (SECRET) [redacted]

25X1

25X1

Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET)

25X1

-38-

TOP SECRET

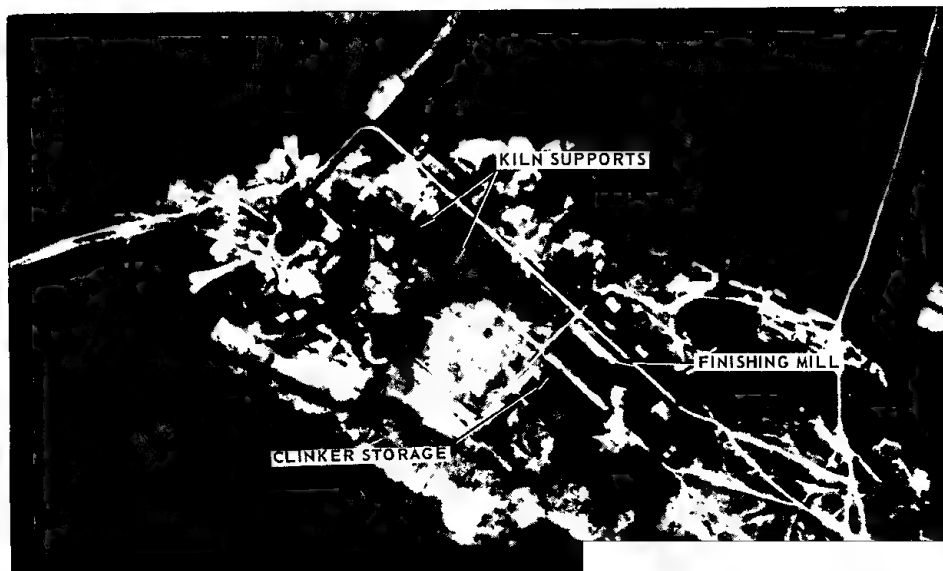
25X1

TOP SECRET

25X1

25X1

## WAN-NIEN CEMENT PLANT



25X1

## BASIC DESCRIPTION

The Wan-nien Cement Plant is located 2 nm north of Wan-nien. It is road served and does not have any apparent security system.

This plant is incomplete and there has been no construction at the site since September 1963. There are supports for two rotary kilns and ground scars for a possible masonry stack. Other facilities are a probable slurry tank, a possible clinker storage building, and a possible finishing mill.

To bring this plant to an operational level several items must be built including rotary kilns, a primary crushing and grinding facility, mixing and correcting tanks, a coal preparation facility, a raw material storage facility and a packing and shipping building.

There has been no visible change since [redacted] 1/

25X1

## REFERENCES

25X1

## Map

2nd RTS. JS Air Target Chart, Series 200, Sheet M0493-23HL, 3rd edition, Nov 67. Scale 1:200,000 (SECRET [redacted])

25X1  
25X1

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

25X1

TOP SECRET

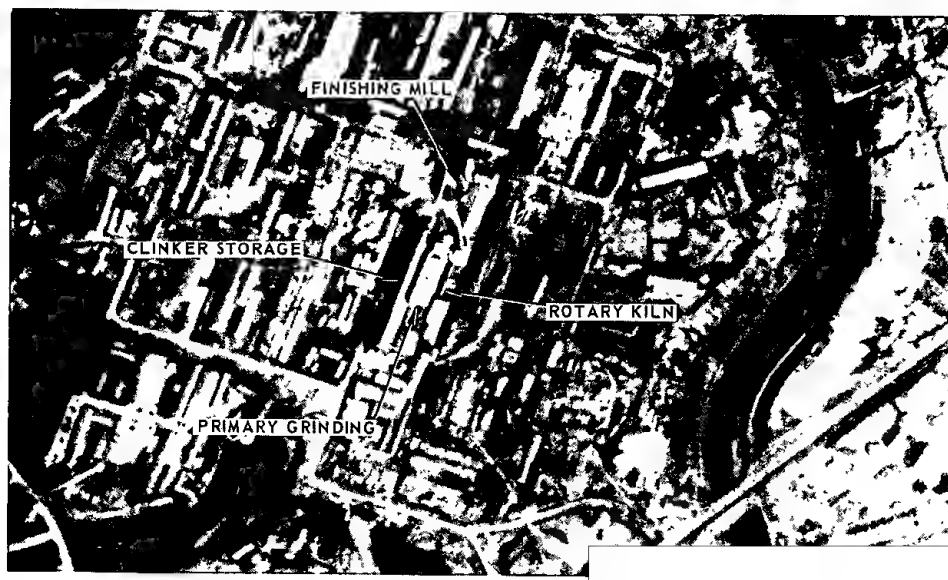
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25X1

## WU-CHANG CEMENT PLANT



25X1

## BASIC DESCRIPTION

The Wu-chang Cement Plant is located 7.8 nm northeast of the center of Wu-chang and is adjacent to the Wu-han Iron and Steel Plant. The plant is road and rail served, has no apparent security, and occupies an area approximately 1,500 by 600 feet.

25X1

This plant produces cement using the dry process. The raw material used is probably blast furnace slag from the adjacent steel plant. A slag pile is located 2,200 feet northeast of the cement plant. There is one rotary kiln measuring 235 feet with a masonry stack. There is a second stack in place and room for a second rotary kiln, although no construction is evident.

25X1

In addition to the items annotated on the photograph, the plant includes a coal processing facility, a packing and shipping building with four storage silos, and several support buildings.

There have been no visible changes in the plant since [redacted]. There was no smoke emanating from the stack on coverage of [redacted]. [redacted] there was smoke coming from the stack serving the kiln.

25X1

25X1

## REFERENCES

25X1

## Map

[redacted] US Air Target Chart, Series 200, Sheet M0493-6HL, 4th edition, Jan 68. Scale 1:200,000. (SECRET) [redacted]

25X1

25X1  
25X1

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET) [redacted]

25X1

TOP SECRET

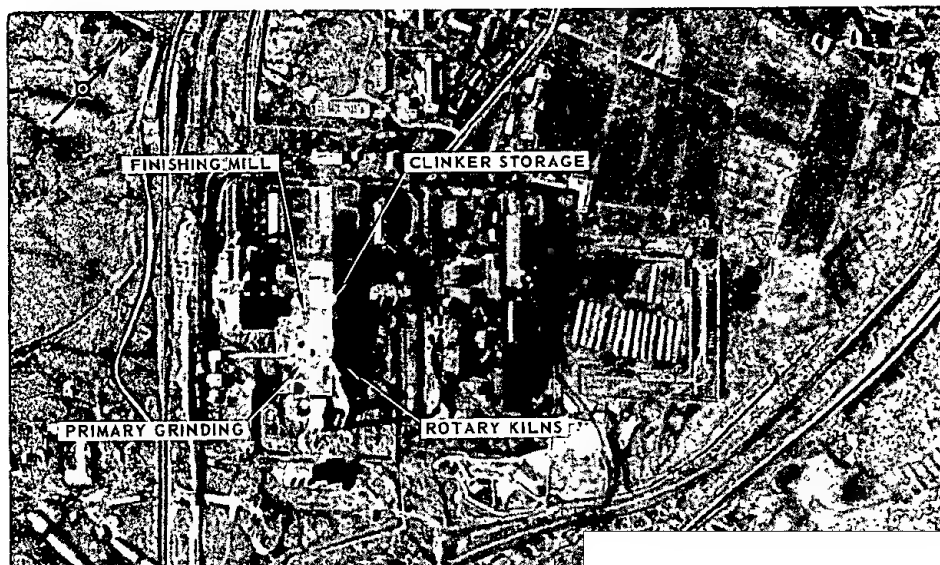
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## WU-LU-MU-CHI CEMENT PLANT



25X1

## BASIC DESCRIPTION

The Wu-lu-mu-chi Cement Plant is located on the southwest outskirts of Ti-hua (Wu-lu-mu-chi). The plant is both road and rail served, partially secured by a wall, and occupies an area approximately 2,150 by 1,425 feet.

The plant produces cement using the dry process. The raw materials are brought in by rail and moved to the primary grinding facility by an overhead conveyor. There are two rotary kilns. Each kiln measures 140 feet and has a masonry stack. In addition to the items annotated on the photograph, the plant includes a gypsum preparation facility, a coal processing and storage area, a packing and shipping building with 14 silos, and numerous support buildings.

25X1

There have been no visible changes in the plant since [redacted]. There was no smoke emanating from either stack on coverage of [redacted]. On [redacted] there was smoke emanating from one stack, and on [redacted] smoke was emanating from both stacks.

25X1

25X1

25X1

25X1

## REFERENCES

25X1

## Map

ACIC. US Air Target Chart, Series 200, Sheet M0330-3HL, 2nd edition, Dec 65. Scale 1:200,000. (SECRET)

25X1

25X1

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET)

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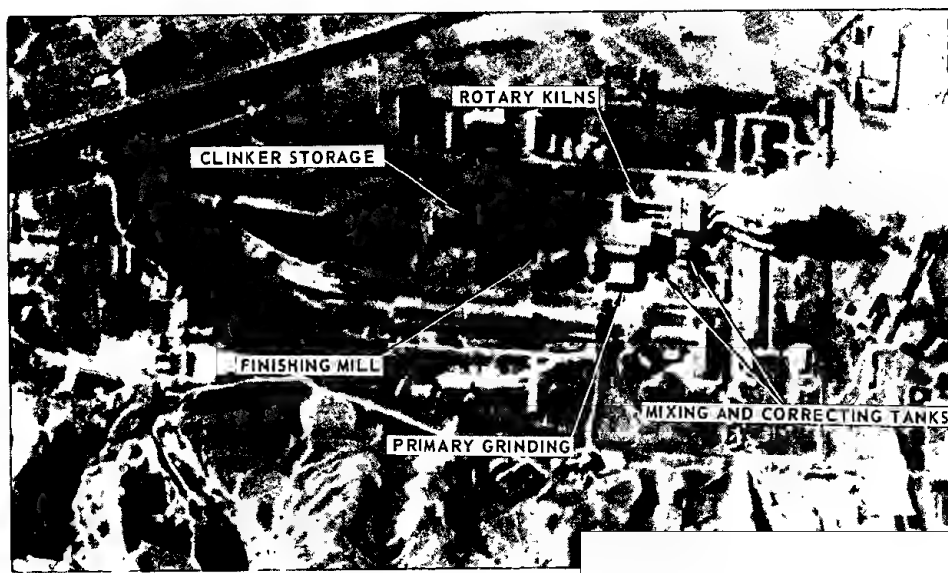
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## YAO-HSIEN CEMENT PLANT



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## BASIC DESCRIPTION

The Yao-hsien Cement Plant is located on the southeastern outskirts of Yao-hsien. The plant is road and rail served, secured by a wall, and occupies an area of approximately 2,400 by 1,400 feet.

This plant produces cement by the wet process. Raw materials for this production are obtained from a quarry just east of the plant area. The plant has three rotary kilns, each measuring 400 [ ] feet. Each kiln is served by a separate masonry stack.

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In addition to those facilities annotated on the photograph, the plant includes a packing and shipping building with 16 storage silos, an administration building and numerous support buildings. A probable transformer substation is located on the western perimeter of the plant.

There have been no changes in the plant facilities since [ ]. The plant did not appear to be operating on coverage of [ ] but smoke was emanating from all three stacks on [ ] photography.

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## REFERENCES

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## Map

15th RTS. US Air Target Chart, Series 200, Sheet M0384-10HL, 2nd edition, Jun 68. Scale 1:200,000 (SECRET [ ])

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1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [ ] (TOP SECRET [ ])

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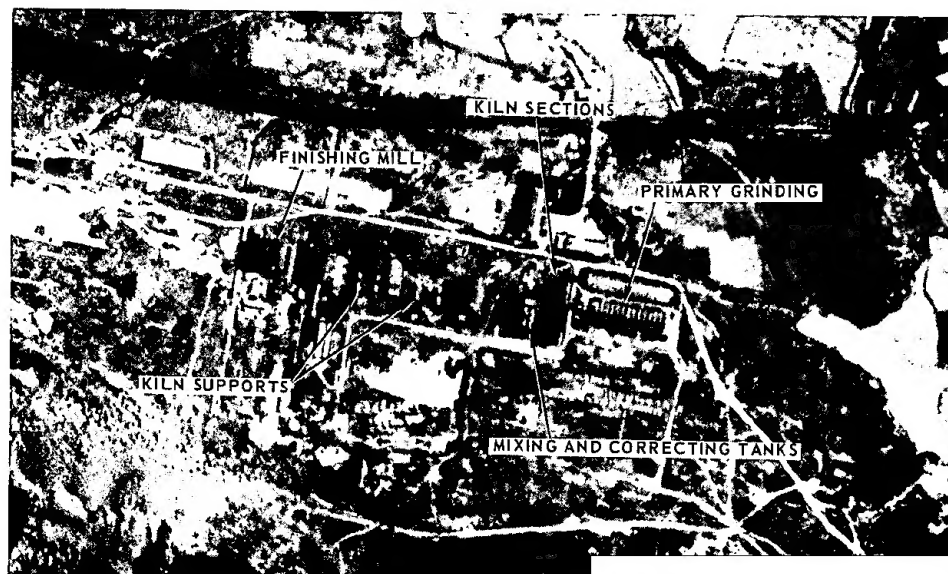
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## YING-TE CEMENT PLANT



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## BASIC DESCRIPTION

The Ying-te Cement Plant is located approximately 9 nm north of the town of Ying-te, China. It is rail and road served and occupies an area approximately 1,500 by 900 feet. There is no visible security system.

This plant is incomplete and there has been no construction at the site since December 1962.

The presence of mixing and correcting tanks and a slurry tank indicate that the plant was designed to produce cement using the wet process. There are supports for two rotary kilns. In addition there are 27 possible kiln sections at the south end of the plant. Other facilities include a probable finishing mill and primary grinding mill.

To become operational the plant would need the rotary kilns, a gypsum preparation facility, a coal preparation facility, raw material storage, and a packing and shipping building.

There has been no visible change in this plant since [redacted] 1/

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## REFERENCES

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## Map

15th RTS. US Air Target Chart, Series 200, Sheet 0498-21HL, 1st edition, Mar 62, Scale 1:200,000 (SECRET)

## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

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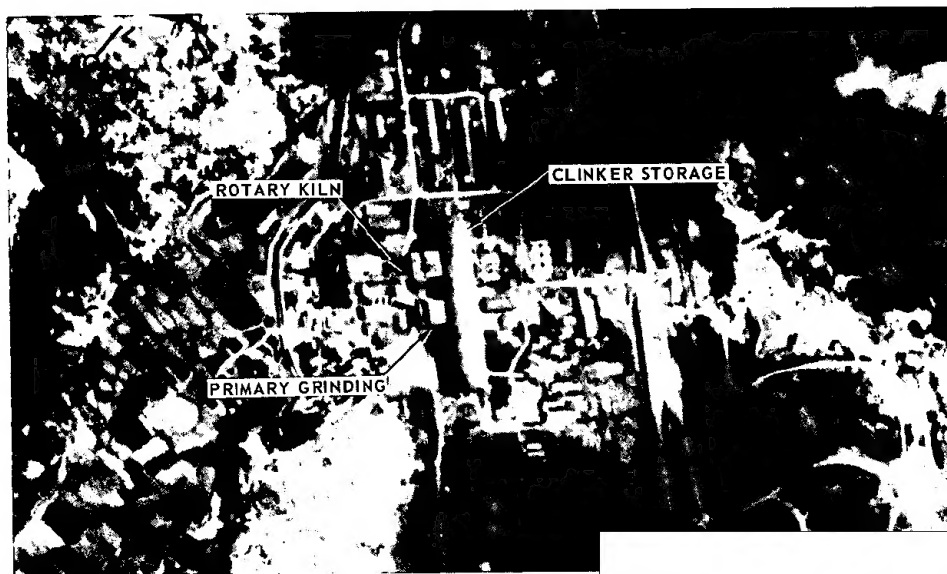
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## YUNG-AN CEMENT PLANT



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## BASIC DESCRIPTION

The Yung-an Cement Plant is located 3.7 nm northwest of the center of Yung-an. The plant is road and rail served and has no apparent security system. It occupies an area approximately 2,250 by 1,050 feet.

This plant is incomplete and no significant construction or activity has been observed at the site since [redacted]. The presence of mixing and blending silos adjacent to the one rotary kiln indicates that the plant was designed to produce cement by the dry process. The kiln is partially covered and it is estimated to measure 200 [redacted].

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Other completed facilities include a clinker storage building and a primary grinding mill.

The plant lacks a finishing mill, a gypsum preparation facility, a fuel preparation and storage area, and a packing and shipping building. These facilities must be added before this plant can produce cement.

## REFERENCES

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## Map

[redacted] US Air Target Chart, Series 200, Sheet M0498-14HL, 3rd edition, Dec 67, Scale 1:200,000 (SECRET [redacted])

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## Document

1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

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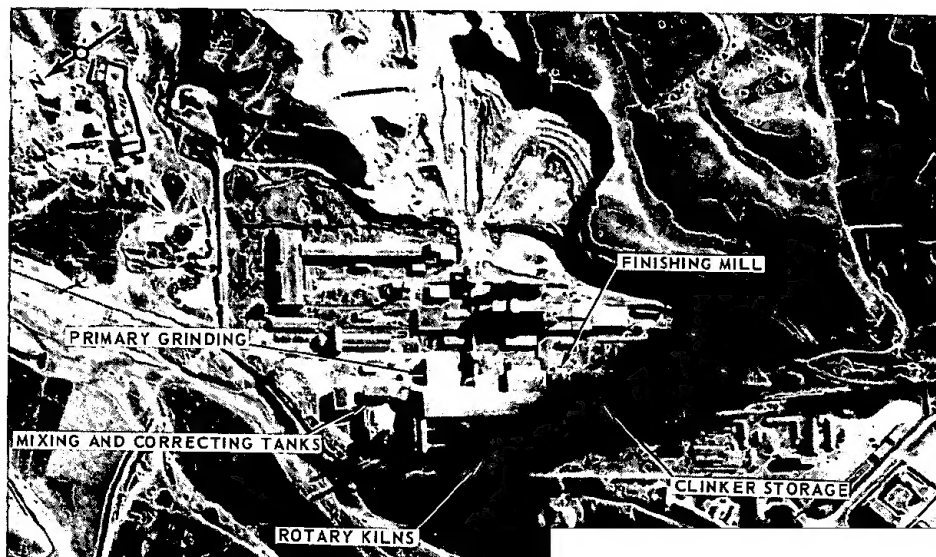
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## YUNG-TENG CEMENT PLANT



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## BASIC DESCRIPTION

The Yung-teng Cement Plant is located about 1 nm north of Chung-pao. It is road and rail served, secured by a wall, and occupies an area of approximately 1,900 by 750 feet.

The Yung-teng plant produces cement by the wet process. The raw material, probably limestone, is obtained from a quarry immediately east of the plant area. A conveyor system transports the raw materials to the primary grinding area. The plant has four rotary kilns served by two masonry stacks. Each kiln measures 130 by 10 feet and each has a dust catcher.

In addition to those facilities annotated on the photograph, the plant includes a packing and shipping building with 17 storage silos, a gypsum preparation facility, and numerous support buildings.

There have been no visible changes in the plant since [redacted] 1/ No dust or smoke was visible in the vicinity of the dust catchers or stacks on photography of [redacted] dust or smoke was evident near one of the dust catchers but no smoke was being emitted from either stack.

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## REFERENCES

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Map

ACIC. US Air Target Chart, Series 200, Sheet M0383-16HL. 2nd edition. Sep 68, Scale 1:200,000 (SECRET [redacted])

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1. CIA. DDI/IAR 85039, Status of Major Cement Plants in Communist China During 1967, April 1968, [redacted] (TOP SECRET [redacted])

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